CCIJ 26,2

348

Received 25 February 2020 Revised 2 July 2020 Accepted 27 August 2020

Corporate communication in open innovation: a case-study of three multinationals

Elena Gutiérrez-García and Mónica Recalde

School of Communication, Universidad de Navarra - Campus Universitario, Pamplona, Spain, and

José A. Alfaro

School of Economics and Business, Universidad de Navarra - Campus Universitario, Pamplona, Spain

Abstract

Purpose — This article proposes a theoretical framework that synthesizes the main factors explaining the strategic contribution of communication department to open innovation (OI) processes. Because there is little or no research literature on communication and OI, the purpose is to fill this gap. A literature review and empirical qualitative research were conducted to weigh the significance of the framework in practice.

Design/methodology/approach – An interdisciplinary literature review was necessary to identify the main factors that explain the communication contribution to OI. The analysis of three multinational case studies has helped to enrich the proposed framework. Six semi-structured interviews were conducted with in-company communication managers and innovation managers in order to capture their perceptions.

Findings – Communication emerges as a strategic function with the potential to be embedded in the whole OI process. The main conclusion is that it may play an increasingly central role in enhancing relationships with external partners. Moreover, it enacts its strategic role while facilitating the enhancement of the organization's overall communication capability – that is, trust, transparency and a coherently articulated narrative.

Research limitations/implications – This article has not been designed as a comprehensive overview of the topic, nor it is designed to be statistically representative or generalizable. The study was conducted with the intention of exploring the theoretical and practical contributions of communication department to OI, as well as to raise awareness among scholars and practitioners on this new but neglected topic for research. Its qualitative approach serves to assess the value of the framework proposed, and the key issues highlighted here require further research.

Practical implications – The theoretical framework proposed may enable innovation managers to identify the factors in which the communication function and its practitioners may play a role for facilitating OI processes. Likewise, communication practitioners may find it useful to foster their organizational role and capabilities within these processes.

Originality/value – This article underlines the significant contribution that the communication function may play in OI processes. Research on this topic has been neglected thus far, despite its significance for the competitiveness of companies and the economy as a whole.

Keywords Corporate communication, Open innovation, Case studies, Stakeholders, Engagement, Spain **Paper type** Case study

1. Introduction

The relationship between open innovation (OI) and communication management is a neglected topic in academic literature. There is scant research, and what has been done is to

Authors would like to express their gratitude to all the practitioners, innovation managers and communication directors that had spent their time, knowledge and wisdom with researchers.

Research funding: This article is part of a project entitled "Stakeholder relationships and communication management in open innovation processes" (2016–2019), entirely funded by the Ministry of Science, Innovation and University of the Spanish Government and the European Regional Development Fund of the EU, grant number CSO 2015-63972-R. Authors would like to thank the funding of the project.



Corporate Communications: An International Journal Vol. 26 No. 2, 2021 pp. 348-364 © Emerald Publishing Limited 1336-3289 DOI 10.1108/CCIJ-02-2020-0048

Communication

in open

be found in management studies, but the focus is neither on communication management and its processes nor on its specific contribution. As will be shown in the following section, some communication scholars have focused on innovation and communication in general, but not on the particularities of OI. This is striking because the success of OI processes themselves depends on how relationships with stakeholders are managed.

Consequently, the communication dimension emerges as a key topic that requires further research, as highlighted in management studies. The traditional view of communication in the innovation process is articulated via the concept of innovation communication, defined by Zerfass and Huck (2007, p. 48) as a "systematically planned, performed and evaluated communication of innovation aiming to generate understanding and trust for the innovation as well as positioning the corresponding organization as innovator." However, although Zerfass and other communication scholars are among the few that have researched the perspective of strategic communication in innovation, it should be noted that this definition is not limited to the phenomenon of OI. Moreover, as it may be observed, the definition focuses on the traditional features of strategic and corporate communication, such as the strategic and planning approach and its contribution to gaining public understanding and trust.

OI emerges as an antithetical approach to the traditional closed model where organizations innovate in an isolated way (Chesbrough, 2003; Chesbrough *et al.*, 2006). The concept has become increasingly popular since Henry Chesbrough proposed it in his 2003 seminal book *Open innovation*. The new imperative for creating and profiting from technology. It is defined as "the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively" (Chesbrough *et al.*, 2006, p. 1). The concept entails the use of information, ideas and capabilities that come from inside organizations (i.e. employees, departments, teamwork projects) as well as from the wide variety of stakeholders outside organizations (i.e. business partners, NGOs, research centers, clusters, start-ups).

From this perspective, communication emerges as a key element in the success of OI processes, because it enables the sharing of information and ideas and, most importantly, because it helps to ensure company engagement with external partners (Ortega-Egea et al., 2014). As Striukova and Rayna note, "open innovation can be rather challenging, so the operationalization of the relationship with partners is particularly critical. Indeed, one of the critical issues is that this operationalization strongly depends on the way relationships develop" (2015, p. 480).

However, as Trautmann and Enkel observe, although many people have described innovation communication as a key element, "neither research nor practitioners provide guidance on how companies should organise the communication of their innovativeness" (2014, p. 4). Likewise, as Bruhn and Ahlers (2017) highlight, academia lacks a theoretical approach that clarifies this complex phenomenon, "so far, no consistent approach has yet established itself definitively" (p. 207).

Despite relatively limited research thus far, communication is a constitutive element of the innovation process. Within this context, the following question arises: what are the key factors that make communication a critical function for OI processes? The objective of the article is to identify the implications of the communication department for OI performance by means of an interdisciplinary analysis. Our research is based on a three case-study analysis whose main results may both help to enrich academic literature on innovation communication and enable managers to identify the crucial factors that foster the role of communication department in OI processes.

The article is structured as follows: first, a theoretical framework is proposed. Because of the limited specialized literature in the field, the article presents a literature review that condenses the main contributions from both management and communication scholarship. In order to comprehend and distinguish the aspects that define the contribution of the communication function to OI processes, the authors propose the above-mentioned theoretical framework, composed of four constructs, that identifies and reflects some of the theoretical and practical challenges underlined in academic literature. Second, a qualitative empirical approach designed to examine the framework in-depth is carried out through a case-study methodology to see whether it reflects the key challenges that practitioners face. For this aim, third, the findings are presented and the proposed framework enriched. From this perspective, we draw the main conclusions for future academic research purposes, and, also, what the implications for management practice may be. In short, the analysis of the framework through the lens of practice, due to the empirical research, sheds some light on what is at stake when theorizing, and it aims to be a first step toward a more in-depth understanding of the intersection between management and communication in OI processes.

2. The framework: four theoretical constructs for an analytical model

The objectives of this literature framework are, firstly, to analyze the main communication factors that are at play in OI processes. A multidisciplinary literature review has been conducted analyzing three fields since the 2000s – where the OI concept emerged: OI studies, corporate communication and public relations literature. In light of this review, the authors have found that the current state of communication in innovation studies, and vice versa, is characterized by fragmentation. A broad range of factors emerges from articles and books, but the research lacks a clear structure and order, perhaps because the topic itself is new and its disciplinary status remains unclear since it spans different bodies of knowledge (management, innovation, corporate communication). Although previous research on innovation acknowledges that communication is an essential feature, there is still a marked lack of a comprehensive analysis. Moreover, the literature review discloses a fragmentation of perspectives and a lack of consensus regarding what the key features may be, due to the diversity of research topics across different fields. The aforementioned aspects reveal a knowledge gap in academic literature because some studies focus on specific factors, more often than not independently of one another. In fact, an in-depth integrative analysis is long overdue.

However, because this topic would bring many approaches, authors prioritized their analysis regarding the communication department's and practitioners' role in the strategizing and management of OI processes. As mentioned, communication in OI processes is a new and specific topic, and the ambition of this article is to begin to fill this gap, considering first what role communication function plays in strategizing and in the management of the process itself, taking into account that relationships with stakeholders are a significant feature. The latter is a key aspect for understanding how communication as a function may play a role in the whole process.

But communication's role in organizational management is not a new topic in scholarship. Traditionally, the strategic contribution of communication is a topic under intense discussion in the last decades, and it has been analyzed from different standpoints, although from a broad organizational perspectives, such as communication as a strategic function and its leader/manager role (see, for example: Verhoeven *et al.*, 2020; Falkheimer *et al.*, 2017; Gambetti and Biraghi, 2015; Tench *et al.*, 2009; Moss *et al.*, 2005), communication value within organizations (see Johansson *et al.*, 2019; Wilson, 2016) or strategizing (Andersson, 2020; Zerfass and Volk, 2018; Frandsen and Johansen, 2015; Steyn and Niemann, 2014).

The abovementioned perspectives, though, are mainly concentrated on a general organizational perspective, and there is scant research that focused on or that applied to a specific management process such as OI. That is the reason why authors expound a specific theoretical framework in which four constructs are proposed in order to show the specific factors that are at play in the communicative dimension of OI. These conceptual constructs are the result of the multidisciplinary literature review, as cited. In addition, this proposed theoretical framework was pondered with empirical evidence due to the three cases studied,

in order to explore if the constructs are relevant for practitioners and the profession: the Communication strategic relevance of communication, the impact on innovation processes capabilities and corporate culture.

The second broad purpose of this theoretical section is to move beyond such previous research limitations by offering an integrative framework that brings together the key factors inferred from the literature review. The literature review was integrative and interdisciplinary. This is a step further as this section does not merely present a simple theoretical review of the most relevant research on innovation and communication; over and above that, it also provides a conceptual frame of reference for analyzing a topic whose treatment in the research literature is complex and fragmented (Bogers et al., 2018; West and Bogers, 2017). As a result, a reference framework is drawn up so as to identify the constructs and associated factors through which communication function may play a critical role in enhancing OI. Authors organized factors depicting four constructs that influence the role of communication department in OI management. Figure 1 represents the theoretical framework that has been developed, and it is analyzed in the following subsections.

2.1 Strategic relevance of communication in OI

Because OI is characterized by difficulties in dealing with complex and diverse stakeholder relationships, the challenge is to assist, align and effectively manage stakeholder engagement, and to maintain collaborative partnerships (O'Toole and Holden, 2013; Vanhayerbeke and Rojjakkers, 2013). If communication department may play a key role in strategizing the complex relational grid that arises in OI processes, it should be regarded as a management function in strategic decision-making processes. Therefore, position in the organizational structure should be analyzed as a key factor.

On this regard, as some authors mention, it is crucial that firms be aware of the role of communication as a source of competitive advantage, which is especially important in innovation (Ackermann et al., 2015; Luoma-Aho and Halonen, 2010). Enkel et al. (2017) emphasize the decisive contribution that innovation communication makes to realizing OI potential. However, a reading of the academic literature shows that the focus of research regarding innovation communication is to position the firm as innovative, emphasizing the image impact or public perception impact that communication can enhance through messaging and information delivery, as Zerfass and Huck (2007) highlight. Because of this, prior to considering the importance of generating a reputational impact by being innovative, companies need to establish an alignment between business strategy and the strategic role of communication.

Communication emerges as a constitutive element of OI processes, meaning that communication itself as a function should be part of such processes. In sum, it should be a corporate function that enacts innovation throughout the OI process. Pfeffermann (2017a)

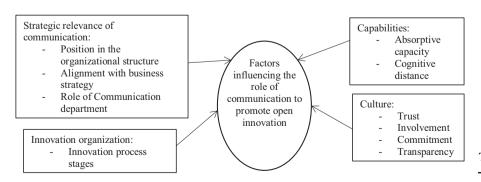


Figure 1. Theoretical framework

underscores the need to design a versatile method of communication planning as a crucial organizational resource, so that communication may play a part in successful innovation. Therefore, the *role of the communication department* must be examined in order to determine whether communication has strategic relevance or if it plays a merely secondary role, associated to only visibility or information delivery. In this regard, many studies have analyzed how communication may facilitate innovation (see Belasen and Rufer, 2013; Blasini *et al.*, 2013; Eberl, 2013; Leeuwis and Aarts, 2011; Patsch and Zerfass, 2013).

2.2 Innovation organization

No OI process can be defined without taking into consideration that disseminating information strengthens relationships with external partners, but the successful completion of such processes depends on communication being a strategic function in itself, supporting the innovation organization within the firm. Thus, it is important to analyze how communication influences the innovation process stages. Ackermann et al. (2015) conclude that "communication is an overarching function that needs to be taken care of throughout the entire innovation process" (p. 402). Bruhn and Ahlers (2017) propose that communication needs an integrated approach and to be phase-oriented for the innovation process. As Enkel et al. (2017) emphasize, communication is not just an operative tool, but a strategic one. Finally, Pfeffermann (2017b) synthesizes the role of communication in terms of three generic phases of the innovation process: idea generation and selection, visualization and market launch. As the author states, each phase comprises a different communication capability and strategy. In the idea generation and selection phase, the focus of the communication area is "on reaching out to people and identifying the right data for a better understanding of customer needs and market specifications" (2017b, p. 311). In the visualization phase, the focus is to help on connecting data that arise from research and analysis, so that communication manager plays a part in helping analysis and environmental scanning, as public relations literature has traditionally stressed (Okura et al., 2008; Lauzen, 1995). Finally, in the idea realization and market launch phase, communication focuses on strategy and delivery purposes, with the purpose of gaining knowledge and reputation of the innovation outcomes.

As it will be shown in the next section, communication department ant its practitioners may play many roles, and enabling the innovation process to be fully developed requires organizational capabilities that help to deal with complex relationships and communication flows.

2.3 Capabilities

The environment of emerging innovation trends has changed, and the most important stakeholders in this field have to deal with a growing uncertainty. Accordingly, firms may address this complexity by developing new capabilities and resources in order to deal with this new scenario. Although capabilities are commonly referred to both organizations (see Teece, 2016) and individually to professionals (see Lester, 2014), in this article two specific capabilities were found to be focused on OI: absorptive capacity and cognitive distancing. Both are highlighted in order to understand if communication may influence their development and span throughout the company and professionals involved in OI processes.

Absorptive capacity has been defined by Cohen and Levinthal (1990) as the ability to recognize the value of new external information, to assimilate it and to apply it for commercial goals. This factor may be crucial to determining the capacity to assimilate external information, and, therefore, innovation departments should promote it among their managers (Spithoven *et al.*, 2010). However, the point is, as will be discussed in the empirical findings, how communication departments can contribute to this intelligence gathering and delivering among employees and practitioners involved. Second, the *cognitive distance* has been defined by Nooteboom (2000) as the different perceptions of values that are crucial to the relational

2.4 Culture

external network of relationships.

At the level of the individual, Mast (2017) notes that innovation is often related to emotions, such as fear of change and failure, and a reluctance to take risks. This author explains that it can be very difficult to communicate innovations because of a lack of trust and different expectations regarding both the outcomes and the process itself. According to Ackermann et al. (2015), communication targets the building of an innovative image, "creating trust to overcome possible fears and concerns regarding novelties or alterations and to reduce uncertainty among various stakeholders" (p. 402).

Another cultural aspect that makes communication more significant is the capacity to foster an internal innovative culture in which employees are encouraged to contribute with their knowledge, experience and expertise (Dombrowski *et al.*, 2007). Moreover, to create and maintain an ongoing innovation flow, stakeholders need also to be motivated and engaged to innovate in partnership with the company.

Woodward and Shaffakat (2017) highlight that leaders need to be fully engaged with innovation and creativity, make an effort to involve specific external stakeholders in the process, engender commitment to change and enable an environment of creative work and knowledge sharing. The role of employees is also relevant in terms of OI (Bogers et al., 2017). From this perspective, Gode et al. (2020) have analyzed the role of employee engagement, showing that, in the context of Internet social media, to generate ideas is a new practice within corporate communication. In this sense, the engagement of employees in innovation processes can be linked to the factor of involvement.

Therefore, *involvement* and *commitment* are relevant factors associated with the corporate culture to engage stakeholders with vision, ideas, innovation and change.

Based on this reading of the situation, communication may play a strategic role through information sharing that enables the internal and external stakeholders to be involved and to avert a knowledge gap. Likewise, communication increases confidence in the process and the capacity to assess the situation, to gather data, to exchange knowledge and expertise, to explore new ideas and to proactively formulate solutions. Stakeholders need to be aware not only of the OI strategy but also of the ongoing development of the project in which they are involved. Authors such as Luoma-Aho and Halonen (2010) take a similar line, arguing that continuously informing all internal and external stakeholders may be one of the key aspects of communication in innovation processes. Consequently, transparency and a culture of reporting are not only a matter of information delivery but a culture key aspect of an organization ready to get involved in OI processes.

As it has been briefly analyzed in the previous sections, key aspects of communication in OI processes are being discussed in academic literature as significant for the practice. Likewise, it also entails conceptual implications that are not the aim of this article. Rather, the theoretical framework proposed embraces four key elements with the intention of understanding key managerial challenges. From this perspective, the qualitative analysis presented below aims to probe if the framework would be validated in the practice as relevant.

3. Methodology

3.1 Data collection

Qualitative methodology is crucial to a deeper understanding of new phenomena. In our research, we intended to comprehend the role of communication department in the OI processes. For this reason, we conducted our analysis with three cases studies with the aim of inquiring practitioners how do they cope with the complexity of stakeholders' relationships and communication in OI processes. That is why researchers selected three companies from different sectors. All in all, the main goal was to contrast the theoretical framework proposed in this article: to evidence-based practice through the managers' perceptions. Consequently, in-depth semi-structured interviews were selected as the main qualitative tool.

Explorative research was carried out to select the best professionals in each company to provide information in response to the research questions. Authors found out two departments that were mainly involved: communication and R&D/innovation areas. As decision-makers, both communication and innovation/R&D managers are a qualified sample for achieving finding result regarding the factors explained in Section 2, as a result of the literature review.

The sample for the study finally was the two chief executives in companies in charge of innovation policies and communication strategy: the chief communication officer and the chief innovation manager. These profiles were selected following the principle of data saturation. As managers, they have a full vision of their departments, they are in charge of the decision-making process on OI strategies and communication, and, lastly, their knowledge and expertise were appropriate to address the abovementioned two pillars for this research. In sum, their perceptions and insights became of unique value for illustrating the managerial implications and decision-making criteria companies face.

In other words, the sample selected represents the most authoritative sources of information to cover the four theoretical factors proposed in the theoretical framework that we aimed to weight in practice. Also, both managers might provide different perspectives on communication management in OI processes, as it will be evidenced in the next section. The selection of the sample was a very important aspect because it avoided bias if communication managers would be selected as the only type of sample. To grasp both the perspective of innovation manager and communication manager provided complementary and sometimes contrasting perspectives that enriched the findings. This is how sampling is guided by the similarities and contrasts required by the theory that supports the four factors presented.

Both managers were interviewed in pairs. According to Cartwright *et al.* (2016), this is a qualitative research method, also called paired interviewing or joint interviewing. That is to say that "researchers interview two people together for the purposes of collecting information about how the pair perceives the same event or phenomenon" (Arksey, 1996, p. 1), in the present study, the factors mentioned. The potential of this data collection tool is particularly useful to collect findings around the discussion between the two managers and, at the same time, to observe their interactions.

As in-depth interviews were semi-structured, authors designed a brief questionnaire with the aim of conducting the discussion and to weight the factors from the theoretical framework.

The questionnaire for the semi-structured interviews was as follows:

Communication management and innovation:

Communication department's role in OI processes.

Communication as a tool in OI projects.

Factors:

Structure: the position of communication department in the organizational chart and strategic position in decision-making processes.

Capabilities: how communication department helps to address the open scenario: absorptive capability and cognitive distance.

Corporate culture: how communication contributes to nurture a corporate culture that enhances OI.

Barriers

What the main communication challenges are in managing relationships.

How communication practitioners may help or facilitate to overcome the barriers.

The barriers that prevent communication department to be more involved.

Interviews were conducted at the headquarters of the three selected companies, and the duration ranged from 70 to 120 min. Interviews were recorded and were carried out by two members of the research group in order to compare notes. Data collection took four months, from January to April 2018. During the interviews, researchers reached data saturation, the point at which new data tend to be redundant.

All interviews were transcribed and validated with a representative of the interviewees. In some cases, they just added updated information. Besides, team members had complementary yet differing insights, which added value to the data. Findings were sent to each of the three representatives of the analyzed firms in order to get feedback and approval regarding the sections explicitly related to their firm. All this procedure assured the researchers to reach the requirements for internal and external validity, as well as reliability, set out in Yin (2009).

3.2 Selection of firms

In order to select the three case studies, researchers first performed a round of interviews with the managers of a Spanish non-profit think-tank called Corporate Excellence, Centre for Reputation Leadership (www.corporateexcellence.org/), established in 2011. The current trustees of this foundation are companies that employ a combined total of over one million people, with a presence in 80 countries around the world, and represent a combined market capitalization of over 70% of the IBEX 35 Index, the primary stock index for securities traded on the Madrid Stock Exchange. Corporate Excellence has been actively involved in all stages of this study, which has enabled the inclusion of company views in the research process and allowed the dissemination of results in professional forums.

As a result of these meetings with Corporate Excellence, three firms were selected for the purpose of the study. The criteria to select them were threefold: first, to be able to interview representatives of both communication and innovation departments; second, firms that represent a variety of sectors which will enrich the study; and, finally, the firms should set a reference standard in their respective markets, specifically in the management of their innovation policies, as well as stakeholder relationships and corporate communication. As a result, the following firms were selected: GESTAMP, INDRA and DKV. Every company will be briefly described and analyzed in the next sections.

3.2.1 GESTAMP – automotive supplier. GESTAMP (www.gestamp.com) is a Spanish multinational company specializing in the design, development and manufacture of highly engineered metal components for the automotive industry. This firm is a benchmark company that seeks to anticipate new technological trends and offers differentiating products and services; hence, it aims at ongoing commitment to incorporating new technologies into its manufacturing processes and to developing traditional technologies. To these ends, more than 1,500 employees are working on R&D projects. In addition, the firm is a pioneer in collaborative innovation practices, that is, working closely with automobile manufacturers from the early stages of development up to final production in its design and manufacturing

in open communication: case studies

355

processes. In 2019, GESTAMP achieved revenue €9.286 million, a net profit of €212 million, with more than 43,000 employees operating in across 23 countries. The company has 13 R&D centers across all key automotive regions.

3.2.2 INDRA – high-technology provider firm. INDRA (www.indracompany.com) is one of the leading global technology and consulting companies and the technological partner for core business operations of its customers worldwide. It is a world leader in providing proprietary solutions in specific segments in transport and defense markets, and a leading firm in digital transformation consultancy and information technologies in Spain and Latin America through its affiliate Minsait. Its business model is based on a comprehensive range of proprietary products, with a high-value focus and with a high innovation component. In 2019, INDRA achieved revenue of €3.203 million, a net profit of €126 million, with more than 49,000 employees, a local presence in 46 countries and business operations in over 140 countries.

3.2.3 DKV – insurance firm. DKV (www.dkvseguros.com) belongs to one of the largest insurance groups in Europe. Its business model is based on personal insurance activity focused on benefits of healthcare and well-being solutions. The group has an extensive network of offices throughout Spain. According to its statement of core values, responsible business is the most important way of incorporating the roles and participation of all the parties that interact with the company. In addition, the company is fully in line with the United Nations' Sustainable Development Goals, and it develops not only sustainable products but also promotes OI through new initiatives and partnerships. In 2018 (the latest available data – DKV is a private company), DKV insurance group operates in more than 30 countries in Europe and Asia, with 43,000 employees. In Spain, DKV achieved revenue €788 million and a net profit of €36 million.

3.3 Data analysis

Authors employed a thematic analysis aimed to identify patterns across qualitative data sets (Clarke et al., 2019). Thematic analysis is common to sort and sift through the data set in order to identify similar phrases and/or relationships, a practice that has been described as being common across many qualitative analytic approaches (Miles and Huberman, 1994). Furthermore, it involves inductive engagement with the data, with researchers moving from isolated cases to broader interpretations. Finally, thematic analysis is especially appropriate as it offers a theoretical flexibility that allows researchers across a range of disciplines to engage disciplinary theories and perspectives (in this case, communication and innovation theoretical frameworks) when conducting a thematic analysis, potentially generating a more meaningful and relevant analysis for a given field.

The researchers were involved in the whole research process in order to gain reliability, specifically to ensure (1) that the repeated administration of a research protocol under similar conditions will result in similar data being gathered, (2) to ensure the extent to which a measure administered on one occasion by multiple researchers will produce similar results. This criterion is usually met by ensuring that the research procedure is kept constant when the research design is carried out, (3) to address coding saturation that is the point in coding when authors find out that no new codes occur in the data. In other words, there were same codes that covered the factors proposed, but no new ones.

Even though qualitative data analysis is generally described as a nonlinear, iterative process, authors report this process in relation to phases, which are certainly often overlapping.

Phase 1: researchers prepared and organized the transcripts for thematic analysis, as well as scanning documents developing the data from which the thematic analysis was developed.

Phase 2: researchers underlined repeating ideas by grouping together related to passages of relevant text. They also noted reflections about the interactions between managers in the margins.

in open communication: case studies

357

Phase 4: this involved the recognition of the similarities, differences and relationships among categories. Following these similarities, differences and relationships, researchers assigned a statement to these categories.

Phase 5: finally, researchers developed theoretical constructs in order to bridge the gap between the researchers' conceptual concerns and the participants' subjective experience. Theoretical saturation has been pursued at this point. Authors completed the range of constructs that make up the four factors fully represented by the data: the strategic relevance of the communication department, the organization of innovation, professional capabilities and corporate culture.

4. Findings: extended framework

The theoretical proposal presented in Section 2 is corroborated by the analysis of INDRA, DKV and GESTAMP. The four constructs appear to be key features of OI, and the definitions of the factors are enriched by new findings from the empirical analysis articulated in italics in the following extended framework (Figure 2), which is explained in detail in the following subsections.

4.1 Strategic relevance of communication

The position of communication department is a factor that features in both the reference and extended frameworks. In all three firms analyzed, the communication managers emphasized that the need for communications to depend directly on general managers was crucial so that its role in OI activities could be relevant.

Alignment with business strategy is also crucial and, in this way, "There were many innovation initiatives and from Communication, we decided to ensure overall coherence with the business strategy" (INDRA communication manager). In this way, all the interviewers emphasized the importance of defining alignment with business strategy.

Defining the role of communication department, it permits to establishing a formal relationship with innovation: "Communication is crucial for us because it is in charge of identifying the features of the target technologies and the stakeholders that are working in them" (INDRA innovation manager). Moreover, the innovation manager from the insurance company also highlights that "Stakeholder considerations play an important role in defining the business strategy of the firm and communication is crucial to letting the firm know these external considerations" (DKV innovation manager). At GESTAMP, for example, "Communication is the representative of GESTAMP in all open innovation activities that

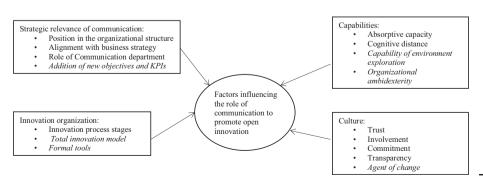


Figure 2. Extended framework involve an agreement, such as business chairs or consortia" (GESTAMP Innovation manager). Thus, it is obvious that it is crucial that the innovation department be aware of the role of the communication department in terms of OI activities with stakeholders.

Regarding new factors, there is a consensus across the three firms that having a close relationship with general management adds new objectives to the communication department and establishing KPIs. INDRA and GESTAMP communication managers insisted on the idea that in the digital environment, data analytics enable a quantitative account of communication performance, and this is crucial to highlighting the department's role. Two additional objectives for the communication department, signaled by the analyzed firms, relate to the relationships with the development of new firms and social innovation activities: "Communication is crucial to developing new activities with stakeholders such as start-ups and spinoffs and also to defining the portfolio of open innovation activities" (INDRA Innovation manager). On the other hand, as it was stressed from another perspective, "there is a trend in which open innovation activities are more closely related to social innovation" (DKV Communication manager).

4.2 Innovation organization

Innovation process stage, a factor identified in the literature, remains the same in the extended framework. In this regard, the interviewees explained that communication covers the entire innovation process, from idea generation to market launch, offering operational and strategic solutions at internal and external levels: "To organize the process of generating ideas with clusters would not be possible without the collaboration of the Communication department" (DKV Innovation manager). In addition, the GESTAMP communication manager defined the role of communication as identifying new trends, technologies and stakeholders in order to be the first point of contact and to act as intermediaries between them and the innovation department.

Regarding the new factors, a total *innovation model* emerged from the discussion. The three firms highlighted the importance of a new total innovation model in which both closed and OI must be communicated at the same time: "We speak about total innovation because we have to analyse jointly the findings of external collaboration with the ones from our own employees" (Innovation manager INDRA).

The existence of *formal tools* to manage innovation is also relevant to making the role of communication easier. In this case, INDRA works with an innovation committee, which enables the monitoring of activities related to OI and the definition of the technologies and typology of stakeholders to work with. In the case of DKV, the existence of a stakeholder map and the organization of "workshops for dialogue" are crucial to deciding on the OI activities to be carried out; such decisions are reached by consensus between the departments of innovation and communication. GESTAMP pointed out that having a formal team dedicated to market observation is crucial to promoting the role of communication in terms of OI. In short, the three firms highlighted the need to report and account for OI activities, which, in turn, requires that both departments (communication and innovation) be reinforced.

4.3 Capabilities

Absorptive capacity grows when the communication managers have technical skills that enable them to better understand the innovation contribution they have to work with, "It is crucial to speak the same language in order to be able to translate the open innovation outputs to all the stakeholders" (INDRA Communication manager). In the case of GESTAMP, this capability is a cornerstone because "the search for new technologies does not involve looking for new sources of information so much as being able to absorb and assimilate this knowledge and Communication department has a significant role to play in this development" (GESTAMP Innovation manager).

With respect to cognitive distance, "We work closely with one another, we collaborate from Communication the beginning. There is no friction. The thematic that is analysed is friendly as material of communication" (INDRA innovation manager). In the case of DKV, "manager profile is key to ensuring appropriate coordination between departments, and this is especially clear for communication and innovation" (DKV innovation manager). At the same time, however, interviewees acknowledge that different and complementary profiles of innovators, communicators and stakeholders may be mutually enriching. For example, in GESTAMP, the cognitive distance with suppliers is very important because they set up exploratory OI practices in order to develop new skills.

Regarding capabilities, the capability of environment exploration emerges from the business cases and underscores the importance of communication in enhancing business intelligence, technological surveillance, mapping of innovation ecosystems and identification of new agents and opportunities. This seems to be more significant when companies operate in several international markets, as is the case for GESTAMP and INDRA.

Another capability to be included in the new framework is *ambidexterity*. The capability that encompasses "day by day" management and the definition of strategies is fundamental to coordinating different actors so as to achieve higher performance: "In the relationship with stakeholders, we have to deal with a long term relationship based on working in an open innovation ecosystem with the day-to-day activities" (DKV innovation manager).

4.4 Culture

The empirical analysis here confirms the significance of the cultural factors identified and set out in Figure 1. Regarding transparency, INDRA managers pointed out that there must be coordination with the communication department in order to show what the firm really does and to avoid setting unrealistic expectations about the results of innovation activity. The fact that two of the three analyzed firms are on the stock market reinforces the cultural value of transparency in OI activities with stakeholders. Commitment is also an essential factor that shows how important communication is in OI. GESTAMP managers pointed out that this factor is very important in designing coordination tools that work in efficient ways. In the case of trust, it was found, as one communication manager states, that it has to be ensured that "Innovation trusts Communication to decide what, when and how to communicate, and if this works, reciprocal trust is consolidated" (INDRA communication manager). Finally, in the case of *involvement*, DKV interviewers highlighted the need for total integration between communication and innovation so as to coordinate effectively with stakeholders. Moreover, researchers have found an additional cultural factor: need for change. Managers argued that it is very difficult to enhance the role of communication in promoting OI if the firm lacks a change culture: "Communication is an agent of change, even transforming the culture of the company" (INDRA Communication manager).

5. Conclusions and implications for management

The article contributes to the theoretical debate about how communication department can empower OI in firms by looking at two fields of study, corporate communication and innovation management. No joint conclusions have yet been reached regarding what the most important factors are. The four theoretical constructs analytical model offers a framework to investigate how these factors improve not only OI processes inside organizations but also the relationships with external partners.

The full reference framework has been analyzed in multi-sectorial case studies that yield the following conclusions.

Communication has taken on additional roles beyond the traditional functions of informing others and the diffusion of information. In general, the existing research conceptualizes communication as a "transmission function" which, in turn, renders it merely instrumental in the innovation process. The extended framework shows that communication promotes and mobilizes essential capabilities, resources (absorptive capacity, cognitive distance, environment exploration and organizational ambidexterity) and cultural factors (trust, involvement, commitment, transparency, agent of change). This broader scope has been acknowledged in communication literature but not explicitly in studies of innovation. This situation has been confirmed by communication and innovation managers of the firms analyzed.

Thus, communication nurtures the whole innovation process and is embedded in each phase from idea generation (identifying new trends, technologies and new stakeholders) to market launch (reporting). The managers explained that communication covers the entire process both internally and externally and helps to bridge the gap between open and closed innovation.

However, as the managers also emphasized, the contribution of communication depends on two conditions: first, the strategic status of the communication department within the organization and, second, a new, flexible and transversal organizational style characterized by interrelated internal units that work with external partners.

Taking into account the previous three key points regarding OI and communication, more academic research is due if corporate communication and PR fields may contribute to the clarification and conceptualization of the communicative dimension of OI that management literature is demanding because the relational dimension is the key. This paper paves the way for future lines of inquiry and research from an interdisciplinary perspective. Accordingly, academic research will need to further expand its multidisciplinary approach in order to comprehend conceptually and empirically how communication management affects OI process and outcomes. Consequently, several theoretical branches seem to be relevant.

Firstly, a more clearly conceptual construct may be of interest to be further developed in several ways. To summarize, two main topics emerge as relevant for future research. The first is related to the OI relational process in itself, because it comprises a complex grid of relationship with external stakeholders. In this regard, corporate communication and PR fields may contribute conceptually with the theoretical heritage on relationship management literature, taxonomy and measurement of relational outcomes. The second topic refers to the role of the chief communication officer as part of the OI strategizing and what his/her role may be. Corporate and strategic communication field has developed a huge amount of research on this regard, as mentioned, but not specifically addressed from the perspective of the OI processes. In this regard, the theoretical framework proposed in this article – and empirically tested – is a first step in order to clarify the specific contribution of the communication department and its leader.

Secondly, another interesting realm for future research is the communicative constitutive dimension of OI. Institutional theory and communication as constitutive of organization (CCO) theory is a well-established theoretical tradition that seems to be of value researching from this perspective for comprehending how innovation happens in the interactions between organizational members and internal and external stakeholders. This line of research would help to understand communication in OI from another perspective, in addition to the focus on communication department's role analyzed in this article.

The previous topics mentioned – the role of the communication department and the communication constitutive of organization approach – are important for understanding communication from a holistic perspective in the OI processes.

Thirdly, and finally, OI processes are relevant corporate phenomena with implications for social and economic development and sustainability. In this sense, another line of research is linked to social innovation and the role of communication, or how innovation is communicated to society.

in open

Regarding professional practice, it is hoped that this paper provides new insights and Communication ideas concerning the underexplored interrelationship between communication and innovation. The cases analyzed reveal how managers deploy the factors that the theoretical review highlighted. Therefore, the proposed framework provides a guide to the most important factors that influence the role of communication in OI processes. These factors may help firms to navigate the complex management of communication by looking at the strategic importance of innovation communication, reinforcing its presence across all stages, developing new capabilities and resources and improving the cultural factors discussed.

References

- Ackermann, M.S., Stephan, M. and Penrose, J.M. (2015), "Assessing organizational innovativeness evidence from corporate narratives", Corporate Communications: An International Journal, Vol. 20 No. 4, pp. 399-414, doi: 10.1108/CCIJ-04-2014-0026.
- Andersson, R. (2020), "Being a 'strategist': communication practitioners, strategic work, and power effects of the strategy discourse", Public Relations Inquiry. doi: 10.1177/2046147X20920819.
- Arksey, H. (1996), "Collecting data through joint interviews", Social Research Update, Vol. 15, pp. 1-8, available at: http://sru.soc.surrey.ac.uk/SRU15.html.
- Belasen, A. and Rufer, R. (2013), "Innovation communication and inter-functional collaboration: a view from the competing values framework for Corporate Communication", in Pfeffermann, N., Minshall, T. and Mortara, L. (Eds), Strategy and Communication for Innovation, Springer, Heidelberg, pp. 227-240.
- Blasini, B., Dang, R.J., Minshall, T. and Mortara, L. (2013), "The role of communicators in innovation clusters", in Pfeffermann, N., Minshall, T. and Mortara, L. (Eds), Strategy and Communication for Innovation, Springer, Heidelberg, pp. 119-137.
- Bogers, M., Zobel, A.K., Afuah, A., Almirall, E., Brunswicker, S., Dahlander, L., Frederiksen, L., Gawer, A., Gruber, M., Haefliger, S., Hagedoorn, J., Hilgers, D., Laursen, K., Magnusson, M.G., Majchrzak, A., McCarthy, I.P., Moeslein, K.M., Nambisan, S., Piller, F.T., Radziwon, A., Rossi-Lamastra, C., Sims, J. and Ter Wal, A.L.J. (2017), "The open innovation research landscape: established perspectives and emerging themes across different levels of analysis", Industry and Innovation, Vol. 24 No. 1, pp. 8-40, doi: 10.1080/13662716.2016.1240068.
- Bogers, M., Chesbrough, H. and Moedas, C. (2018), "Open Innovation: research, practices, and policies", California Management Review, Vol. 60 No. 2, pp. 5-16, doi: 10.1177/0008125617745086.
- Bruhn, M. and Ahlers, G.M. (2017), "Integrated communication in the innovation process—an approach to integrated innovation communication", in Pfeffermann, N. and Gould, J. (Eds), Strategy and Communication for Innovation, Integrative Perspectives on Innovation in the Digital Economy, Springer International Publishing, Berlin, pp. 205-225.
- Cartwright, A.D., Onwuegbuzie, A.J. and Manning, L.P. (2016), "Using paired depth interviews to collect qualitative data", Qualitative Report, Vol. 21 No. 9, pp. 1549-1573.
- Chesbrough, H.W., Vanhaverbeke, W. and West, J. (2006), Open Innovation: Researching a New Paradigm, Oxford University Press, Oxford.
- Chesbrough, H.W. (2003), "The era of open innovation", MIT Sloan Management Review, Vol. 44 No. 3, pp. 35-41.
- Clarke, V., Braun, V., Terry, G. and Hayfield, N. (2019), "Thematic analysis", in Liamputtong, P. (Ed.), Handbook of Research Methods in Health and Social Sciences, Springer, Singapore, pp. 843-860.
- Cohen, W.M. and Levinthal, D.A. (1990), "Absorptive capacity: a new perspective on learning and innovation", Administrative Science Quarterly, Vol. 35 No. 1, pp. 128-152, doi: 10.2307/2393553.
- Dombrowski, C., Kim, J.Y., Desouza, K.C., Braganza, A., Papagari, S., Baloh, P. and Jha, S. (2007), "Elements of innovative cultures", Knowledge and Process Management, Vol. 14 No. 3, pp. 190-202, doi: 10.1002/kpm.279.

- Eberl, U. (2013), "A holistic approach to communicating innovations: siemens and its environmental portfolio", in Pfeffermann, N., Minshall, T. and Mortara, L. (Eds), Strategy and Communication for Innovation, Springer, Heidelberg, pp. 369-380.
- Enkel, E., Dingler, A. and Mangels, C. (2017), "Open Innovation: enhancing theory and practice by integrating the role of innovation communication", in Pfeffermann, N. and Gould, J. (Eds), Strategy and Communication for Innovation. Integrative Perspectives on Innovation in the Digital Economy, Springer International Publishing, Berlin, pp. 131-145.
- Falkheimer, J., Heide, M., Nothhatf, H., von Platen, S., Simonsson, C. and Andersson, R. (2017), "Is strategic communications too important to be left to communication professionals? Managers' and coworkers' attitudes towards strategic communication and communication professionals", *Public Relations Review*, Vol. 43 No. 1, pp. 91-101, doi: 10.1016/j.pubrev.2016.10.011.
- Frandsen, F. and Johansen, W. (2015), "The role of communication executives in strategy and strategizing", in Holtzhausen, D.R. and Zerfass, A. (Eds), *The Routledge Handbook of Strategic Communication*, Routledge, New York, pp. 229-243.
- Gambetti, R.C. and Biraghi, S. (2015), "The CCO: appointed or organic leader? The rise of conversational leadership", Corporate Communications: An International Journal, Vol. 20 No. 4, pp. 415-430, doi: 10.1108/CCIJ-02-2014-0011.
- Gode, H.E., Johansen, W. and Thomsen, C. (2020), "Employee engagement in generating ideas on internet social media: a matter of meaningfulness safety and availability", Corporate Communications: An International Journal, Vol. 25 No. 2, pp. 263-280, doi: 10.1108/CCIJ-03-2019-0024.
- Johansson, C., Grandien, C. and Strandh, K. (2019), "Roadmap for a communication maturity index for organizations—theorizing, analyzing and developing communication value", *Public Relations Review*, Vol. 45 No. 4, 101791, doi: 10.1016/j.pubrev.2019.05.012.
- Lauzen, M.M. (1995), "Toward a model of environmental scanning", Journal of Public Relations Research, Vol. 7 No. 3, pp. 187-203.
- Leeuwis, C. and Aarts, N. (2011), "Rethinking communication in innovation processes: creating space for change in complex systems", *The Journal of Agricultural Education and Extension*, Vol. 17 No. 1, pp. 21-36, doi: 10.1080/1389224X.2011.536344.
- Lester, S. (2014), "Professional standards, competence and capability", *Higher Education, Skills and Work-based Learning*, Vol. 4 No. 1, pp. 31-43, doi: 10.1108/HESWBL-04-2013-0005.
- Luoma-Aho, V. and Halonen, S. (2010), "Intangibles and innovation: the role of communication in the innovation ecosystem", *Innovation Journalism*, Vol. 7 No. 2, pp. 2-20.
- Mast, C. (2017), "Managing emotion matters-A balanced framework for communicating innovations in companies", in Pfeffermann, N. and Gould, J. (Eds), Strategy and Communication for Innovation. Integrative Perspectives on Innovation in the Digital Economy, Springer International Publishing, Berlin, pp. 175-184.
- Miles, M. and Huberman, A.M. (1994), "Data management and analysis methods", in DenzinLincoln, N.K.Y.S. (Ed.), *Handbook of Qualitative Research*, Sage Publications., Thousand Oaks, CA, pp. 428-444.
- Moss, D., Newman, A. and DeSanto, B. (2005), "What do Communication managers do? Defining and refining the core elements of management in a Public Relations/Corporate Communication context", Journalism and Mass Communication Quarterly, Vol. 82 No. 4, pp. 873-890, doi: 10.1177/107769900508200408.
- Nooteboom, B., Haverbeke, W., Duysters, G., Gilsing, V. and Oord, A. (2007), "Optimal cognitive distance and absorptive capacity", *Research Policy*, Vol. 36 No. 7, pp. 1016-1034, doi: 10.1016/j. respol.2007.04.003.
- Nooteboom, B. (2000), "Learning by interaction: absorptive capacity, cognitive distance and governance", Journal of Management and Governance, Vol. 4 Nos 1-2, pp. 69-92.
- O'Toole, T. and Holden, M.T. (2013), "A relational communication strategy for successful collaborative innovation in Business-to-Business markets", in Pfeffermann, N., Minshall, T. and Mortara, L. (Eds), Strategy and Communication for Innovation, Springer, Heidelberg, pp. 271-291.

in open

Communication

communication:

case studies

- Okura, M., Dozier, D., Sha, B.L. and Hofstetter, C.R. (2008), "Use of scanning research in decision making: an examination of the environmental imperative and power-control perspective", *Journal of Public Relations Research*, Vol. 21 No. 1, pp. 51-70.
- Ortega-Egea, M.T., Ruiz Moreno, A. and Haro Domínguez, M.C. (2014), "Determinants of innovative behavior of employees: evidence from Spanish firms", *Employee Relations*, Vol. 36 No. 6, pp. 606-621, doi: 10.1108/ER-07-2013-0081.
- Patsch, S. and Zerfass, A. (2013), "Co-innovation and communication: the case of SAP's global Co-Innovation Lab Network", in Pfeffermann, N., Minshall, T. and Mortara, L. (Eds), *Strategy and Communication for Innovation*, Springer, Heidelberg, pp. 397-414.
- Pfeffermann, N. (2017a), "Communication model design innovation. Authentic open innovation-culture", in Pfeffermann, N. and Gould, J. (Eds), Strategy and Communication for Innovation. Integrative Perspectives on Innovation in the Digital Economy, Springer International Publishing, Berlin, pp. 113-130.
- Pfeffermann, N. (2017b), "What is Innovation Communication? A dynamic capability view", in Pfeffermann, N. and Gould, J. (Eds), Strategy and Communication for Innovation. Integrative Perspectives on Innovation in the Digital Economy, Springer International Publishing, Berlin, pp. 303-315.
- Spithoven, A., Clarysse, B. and Knockaert, M. (2010), "Building absorptive capacity to organize inbound open innovation in traditional industries", *Technovation*, Vol. 31 No. 1, pp. 10-21, doi: 10.1016/j.technovation.2009.08.004.
- Steyn, B. and Niemann, L. (2014), "Strategic role of public relations in enterprise strategy, governance and sustainability—a normative framework", *Public Relations Review*, Vol. 40 No. 2, pp. 171-183, doi: 10.1016/j.pubrev.2013.09.001.
- Striukova, L. and Rayna, T. (2015), "University-industry knowledge exchange. An exploratory study of Open Innovationin UK universities", European Journal of Innovation Management, Vol. 18 No. 4, pp. 471-492.
- Teece, D.J. (2016), "Dynamic capabilities and entrepreneurial management in large organizations: toward a theory of the (entrepreneurial) firm", European Economic Review, Vol. 86, pp. 202-216, doi: 10.1016/J.EUROECOREV.2015.11.006.
- Tench, R., Verhoeven, P. and Zerfass, A. (2009), "Institutionalizing strategic communication in Europe an ideal home or a mad house? Evidence from a survey in 37 countries", *International Journal of Strategic Communication*, Vol. 3 No. 2, pp. 147-164, available at: https://org.libaccess.hud.ac. uk, doi: 10.1080/15531180902806237.
- Trautmann, K. and Enkel, E. (2014), "Success factors for strategic communication of corporate innovativeness for financial analysts", *International Journal of Innovation Management*, Vol. 18 No. 1, pp. 1-46, doi: 10.1142/S1363919614500066.
- Vanhaverbeke, W. and Roijakkers, N. (2013), "Enriching open innovation theory and practice by strengthening the relationship with strategic thinking", in Pfeffermann, N., Minshall, T. and Mortara, L. (Eds), Strategy and Communication for Innovation, Springer, Heidelberg, pp. 15-25.
- Verhoeven, P., Zerfass, A., Verčič, D., Moreno, A. and Tench, R. (2020), "Strategic communication across borders: country and age effects in the practice of communication professionals in Europe", International Journal of Strategic Communication, Vol. 14 No. 1, pp. 60-72, doi: 10.1080/ 1553118X.2019.1691006.
- West, J. and Bogers, M. (2017), "Open innovation: current status and research opportunities", Innovation, Vol. 19 No. 1, pp. 43-50, doi: 10.1080/14479338.2016.1258995.
- Wilson, C. (2016), "How dominant coalition members' values and perceptions impact their perceptions of public relations participation in organizational decision making", *Journal of Communication Management*, Vol. 20 No. 3, pp. 215-231.
- Woodward, I.C. and Shaffakat, S. (2017), "Innovation, leadership, and communication intelligence", in Pfeffermann, N. and Gould, J. (Eds), Strategy and Communication for Innovation. Integrative

Perspectives on Innovation in the Digital Economy, Springer International Publishing, Berlin, pp. 245-264.

Yin, R.K. (2009), Case Study Research: Design and Methods, 4th ed., Sage, Thousand Oaks, CA.

Zerfass, A. and Huck, S. (2007), "Innovation, communication, and leadership: new developments in strategic communication", *International Journal of Strategic Communication*, Vol. 1 No. 2, pp. 107-122, doi: 10.1080/15531180701298908.

Zerfass, A. and Volk, S.C. (2018), "How communication departments contribute to corporate success: the communications contributions framework", *Journal of Communication Management*, Vol. 22 No. 4, pp. 397-415, doi: 10.1108/JCOM-12-2017-0146.

Further reading

Zerfass, A., Verčič, D., Nothhaft, H. and Werder, K.P. (2018), "Strategic communication: defining the field and its contribution to research and practice", *International Journal of Strategic Communication*, Vol. 12 No. 4, pp. 487-505, doi: 10.1080/1553118X.2018.1493485.

About the authors

Dr. Elena Gutiérrez-García is associate professor at the School of Communication (Universidad de Navarra, Spain), and visiting professor, Universidad Los Andes (Chile). She is director of the research group INCOMIN, an interdisciplinary group focused on communication and innovation. She was research partner in the Global Capability Framework Project, funded by University of Huddersfield (UK) and supported by the Global Alliance for PR and Communication Management. Her research interests are on communication management, stakeholder engagement and professional capabilities. She has been visiting professor at the Business School, University of Huddersfield. She is board member of the Spanish Association of Communication Directors. Elena Gutiérrez-García is the corresponding author and can be contacted at: egutierrez@unav.es

Dr. Mónica Recalde is an associate professor at the School of Communication, University of Navarra (Spain). She holds a PhD degree in communication from the University of Navarra. She regularly teaches undergraduate and postgraduate units concerned with internal communication, business communication and marketing. Mónica has published on corporate communication, innovation and corporate social responsibility in national and international journals. Her current research interests focus on open innovation and communication.

José A. Alfaro has a PhD degree in business administration from the University of Navarre. He is a professor in the Business Department at the School of Business and Economics of the University of Navarre, and has been visiting professor at the University of California, LA (1988–1999), Carlos III University (1999–2002) and Lund University (2015). His research interests are open innovation, communication, action research, innovation intermediaries, university-firm relationships and supply chain management. His work has been published in refereed journals such as *Production and Operations Management*, *International Journal of Production Economics*, *International Journal of Production Research* and *Action Research*.